

ORIGINAL
Environmental
Resources
Management

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5 April 2005

Reference: 0025137

Sent via email (mcox@mde.state.md.us)

Mr. Mark Cox
Maryland Department of the Environment
Waste Management Administration
Brownfields/Site Assessments Division
1800 Washington Blvd.
Baltimore, Maryland 21230



RE: Herron Farm, Elkton, Maryland

Dear Mr. Cox

At the request of Herron 393, LLC and in preparation of an upcoming meeting, Environmental Resources Management, Inc. (ERM) has enclosed the results of the recent Phase II Environmental Site Assessment (ESA) performed at Unit 4 of the referenced site. The Phase II was performed in substantive compliance with the scope ERM presented to you during our site visit on 8 February 2005. A brief summary of the scope of work and results follows.

SCOPE OF WORK

In February 2005, ERM collected three shallow (0-1 foot depth) soil samples from Unit 4. A composite sediment sample was collected from Gravelly Run. In addition, one new water table monitoring well (MW-1) was installed on site, north of Gravelly Run. Figure 1 shows the sample and well locations. Table 1 summarizes the monitoring well construction details. ERM submitted all of the samples to Phase Separation Science, Inc. (PSSI) for the analyses.

The soil, sediment and ground water samples were analyzed as follows:

- The soil and sediment samples were analyzed for a combination of Target Compound List (TCL) volatile organic compounds (VOCs), TCL Semi-volatile organic compounds (SVOCs), Priority Pollutant List (PPL) metals, organochlorine pesticides, chlorinated herbicides, and nitroaromatics (explosives);
- ERM submitted a ground water sample from MW-1 to PSSI for analysis of TCL VOCs, organochlorine pesticides, chlorinated herbicides, nitroaromatics, nitrate, nitrite, and perchlorate. ERM also submitted a

ground water sample from monitoring wells GWU-2 and GWU-3, which were installed by MDE, for nitrate, nitrite, and perchlorate analyses.

RESULTS

Soil

Table 2 summarizes the analytical results for the soil samples, including those collected by MDE. The results indicate that the soil conditions pose no unacceptable risk to current land users or potential residential receptors. Specifically, TCL VOCs, TCL SVOCs, pesticides, herbicides and nitroaromatics were virtually non-detect. In those few samples where these compounds were detected, the results were well below MDE guidelines for residential soil.

In similar manner, the metals concentrations reported for the samples collected by MDE or ERM were also benign. The only metals detected above MDE guidance or published Anticipated Typical Concentrations (ATC) were arsenic and iron but only in a very few samples. Arsenic (As) for example was only detected above its ATC of 3.6 milligrams per kilogram (mg/kg) in 5 of 20 samples or just 25 percent of the total number of samples, with the maximum concentration of 4.7 mg/kg. Iron (Fe) exceeded its ATC in only 4 of 20 samples, with a maximum concentration of 20,400 mg/kg. In either case, the As and Fe levels detected by MDE and ERM are typical of levels found in Maryland.

Sediment

Table 3 summarizes the sediment results.. The results indicate that sediment conditions associated with Little Elk Creek or Gravelly Run pose no unacceptable risk under current land use or to potential residential receptors. As shown in Table 3, TCL VOCs, TCL SVOCs, metals, pesticides, herbicides, and nitroaromatics were essentially non-detect, and well below MDE residential standards or NOAA Screening values for freshwater.

Ground Water

The ground water results are presented in Table 4. As with the soil and sediment, ground water conditions are relatively benign. Nitroaromatics, pesticides, herbicides, nitrite, nitrate, and perchlorate were either not detected or reported at levels below MDE standards.

The only VOC of note reported by the laboratory was 71 micrograms per liter (ug/L) of tetrachloroethene (PCE) in MDE sample E4GW-8. However, as shown in Figure 1, this sample was off-site and downgradient. MDE sample points GWU-1 and GWU-2, which are located on site along the southern property line of Unit 4 and upgradient of E4GW-8, show that the site was not the source of PCE; rather, it appears to be associated with the documented VOC plume on the GE railroad car property south of Unit 4.

Trace levels of naturally occurring major metals such as aluminum, manganese, and iron were detected in some of the MDE ground water samples at levels above MDE's guidelines. However, ERM does not consider these results significant as these represent water table conditions, which would not be used for potable purposes, and in fact the guidelines for these metals are primarily for aesthetic reasons rather than health. Otherwise, no other metals were detected above MDE guidance.

Surface Water

As shown in Table 5, MDE's surface water results indicate that Little Elk Creek is not impaired with elevated levels of VOCs, SVOCs, pesticides, herbicides, PCBs or metals. In fact, the only organic detected in any of the samples was the SVOC caprolactam at a trace level of less than one ug/L (i.e., less than one part per billion), which the reporting laboratory qualified "J" as a quantitative estimate indicating uncertainty with regard to its reported presence. Some metals were also detected in the surface water samples. However, all results were below MDE's regulations for ambient water quality (Code of Maryland Regulations [COMAR] 26.08.02.03).

CONCLUSIONS

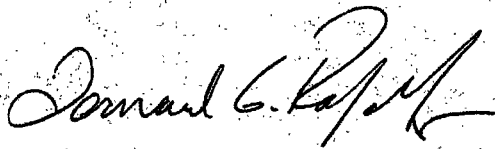
Based on the foregoing discussion, ERM concludes that Unit 4 poses no unacceptable risk under current land use or future residential land use. The results of all environmental media samples were benign, and other than a few metals present at levels typical of Maryland, the results were either non-detect or well below Maryland's soil and ground water guidance, and ambient water quality criteria for surface water.

Mr. M. Cox
4/5/2005
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ERM and its client Herron 393, LLC look forward to meeting with you to discuss the project and findings presented herein. In the interim, please call me at 410-266-0006 if you have any questions or require clarification.

Sincerely,

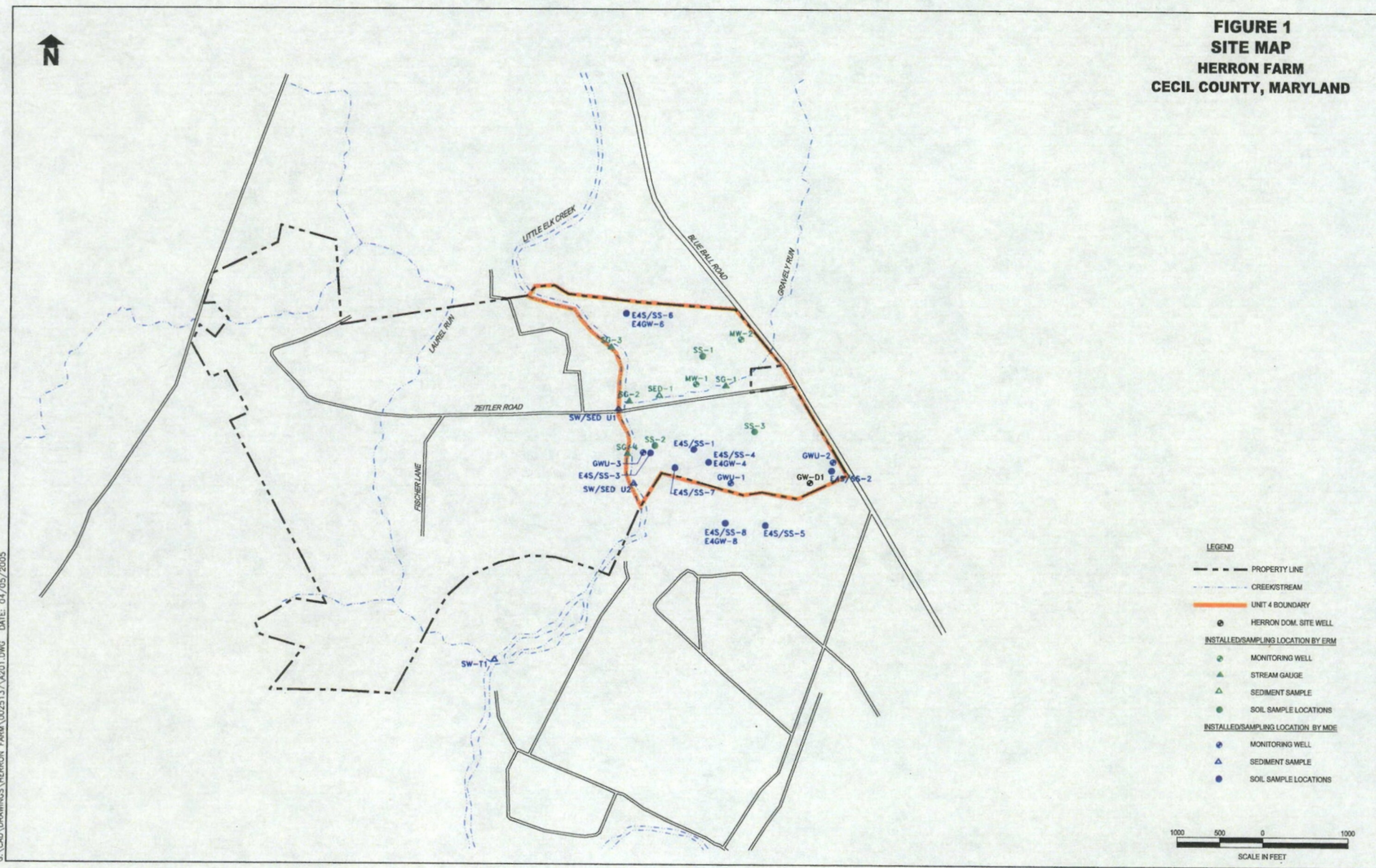
A handwritten signature in cursive script, appearing to read "Leonard G. Rafalko".

Leonard Rafalko
Project Manager

Enclosures

cc: Jim Carroll, Matt Morgan, James Witkin, Joe Lewandowski, file

FIGURE 1
SITE MAP
HERRON FARM
CECIL COUNTY, MARYLAND



G:\CAD\DRAWINGS\HERRON FARM\0025137\A201.DWG DATE: 04/05/2005

MLR/04-05-05

ERM, INC.

Table 1 Monitoring Well and Stream Gauge Details
Herron Farm, Elkton, MD

Monitoring Well/Stream Gage ID	Installed by	Date Installed	Northing	Easting	Reference Elevation (feet)	Well Diameter (inches)	Screen Length (ft)	Depth to Bottom (feet bre)	2/28/05	
									Depth to Water (feet bre)	Ground Water Elevation (feet)
MW-1	ERM	Feb 2005	717004.98	1632918.74	53.22	2	10	16.74	5.58	47.64
MW-2	ERM	Feb 2005	717521.37	1633428.82	59.27	2	6	11.40	4.54	54.73
GWU-1	MDE	Mar 2003	715860.54	1633321.68	72.88	2	15	22.6	5.82	67.06
GWU-2	MDE	Mar 2003	716107.26	1634495.39	97.27	2	15	46.35	18.79	78.48
GWU-3	MDE	Mar 2003	716208.06	1632315.03	46.52	2	15	22.5	6.45	40.07
SG-1	ERM	Feb 2005	716985.83	1633257.74	52.13	na	na	na	3.25	48.88
SG-2	ERM	Feb 2005	716804.66	1632150.43	44.87	na	na	na	3.60	41.27
SG-3	ERM	Feb 2005	717429.32	1631942.3	47.77	na	na	na	4.04	43.73
SG-4	ERM	Feb 2005	716192.17	1632134.03	42.72	na	na	na	3.78	38.94

Notes:

Elevations were measured relative to Vertical Datum NAVD-88

Reference elevation for monitoring wells is top of inner casing. Reference for stream gauges is top of pipe.

ft bgs - feet below ground surface

feet bre - feet below reference elevation

na - not applicable

Table 2 Soil Analytical Results
Herron Farm, Elkton, MD

Parameter	MDE Cleanup Standard (Residential) or ATC	Location ID	MDE Samples																ERM Samples		
			Depth (feet bgs)																SS-1	SS-2	SS-3
			0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	0-1	0-1	0-1
			Date	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Jul-04	Feb-05	Feb-05	Feb-05
TCL VOCs (ug/kg)																					
Bromomethane	1,100		—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND	0.5 J	ND	0.5 J	ND	< 7	< 7
Acetone	480,000		—	—	—	—	—	—	—	—	16 B	7 B	8 B	24 B	8 B	10 B	5 B	8 B	9 B	< 150	< 140
Methyl Acetate	NA		—	—	—	—	—	—	—	—	ND	ND	ND	ND	2 B	2 B	ND	1 B	0.8 B	< 7	< 7
Methylene Chloride	85,000		—	—	—	—	—	—	—	—	1 B	2 B	1 B	2 B	6 B	8 B	1 B	6 B	4 B	< 7	< 7
2-Butanone	4,700,000		—	—	—	—	—	—	—	—	4 B	5 B	ND	5 B	3 B	4 B	2 B	3 B	—	< 74	< 71
Tetrachloroethene			—	—	—	—	—	—	—	—	ND	ND	ND	ND	ND	ND	ND	0.5 J	ND	< 7	< 7
Styrene			—	—	—	—	—	—	—	—	ND	ND	ND	11	ND	ND	ND	ND	ND	< 7	< 7
SVOCs (ug/kg)																					
Acenaphthylene	670,000		ND	ND	ND	ND	64 J	ND	ND	ND	ND	ND	ND	ND	46 J	ND	ND	ND	110 J	< 470	< 500
Phenanthrene	2,300,000		ND	ND	ND	ND	130 J	ND	ND	ND	ND	ND	ND	ND	79 J	ND	ND	ND	200 J	< 470	< 500
Anthracene	2,300,000		ND	ND	ND	ND	44 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	58 J	< 470	< 500
Dibutylphthalate	780,000		ND	ND	ND	ND	ND	ND	ND	ND	97 J	ND	ND	ND	ND	ND	ND	ND	ND	—	—
Fluoranthene	310,000		88 J	40 J	67 J	46 J	270 J	ND	ND	ND	ND	ND	ND	ND	130 J	ND	ND	48 J	370 J	< 470	< 500
Pyrene	230,000		110 J	58 J	69 J	53 J	310 J	ND	ND	ND	ND	ND	ND	ND	160 J	ND	ND	490	ND	< 470	< 500
Benz(a)anthracene	870		ND	ND	ND	ND	140 J	ND	ND	ND	ND	ND	ND	ND	63 J	ND	ND	ND	200 J	< 470	< 500
Chrysene	87,000		70 J	ND	48 J	38 J	180 J	ND	ND	ND	ND	ND	ND	ND	63 J	ND	ND	ND	270 J	< 470	< 500
But(2-Ethylhexyl)Phthalate	46,000		ND	ND	ND	ND	ND	59 J	ND	ND	89 J	76 J	ND	43 J	ND	59 J	46 J	210 J	ND	—	—
Benz(a)fluoranthene	870		74 J	ND	70 J	42 J	140 J	ND	ND	ND	ND	ND	ND	ND	42 J	ND	ND	ND	110 J	< 470	< 500
Benz(a)fluoranthene	8,700		ND	ND	ND	ND	140 J	ND	ND	ND	ND	ND	ND	ND	71 J	ND	ND	ND	220 J	< 470	< 500
Benz(a)pyrene	330		48 J	ND	ND	ND	140 J	ND	ND	ND	ND	ND	ND	ND	71 J	ND	ND	ND	140 J	< 470	< 500
Indeno(1,2,3-cd)pyrene	870		ND	ND	ND	ND	91 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48 J	< 470	< 500
Dibenz(a,h)anthracene	330		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	170 J	< 470	< 500
Benz(a,h)pyrene	230,000		51 J	ND	ND	ND	110 J	ND	ND	ND	ND	ND	ND	ND	50 J	ND	ND	ND	ND	—	—
Butylbenzylphthalate	NA		ND	ND	ND	ND	ND	ND	ND	64 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	—	—
Pesticides/Herbicides/PCBs (ng/kg)																					
4,4'-DDE	1,900		ND	ND	5.1 J	ND	ND	0.92 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 27	< 29
4,4'-DDT	1,900		ND	0.7 J	22	ND	ND	0.49 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 27	< 29
No Herbicides Detected	NA		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ND	ND
No PCBs Detected	NA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—	—
Total Metals (mg/kg)																					
Aluminum	11,000		5,040 J	6,440 J	11,700 J	4,240 J	5,780	1,940 J	5,480 J	11,300 J	7,970 J	10,800 J	5,360	6,630 J	8,590 J	4,670 J	7,360 J	5,410 J	7,560 J	—	—
Antimony	12		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 4.1	< 3.6
Arsenic	5.6		[2.1]	4	4.2	2.4	3.9	[1.9]	[1.7]	4.7	3	4.1	[1.6]	[1.6]	4.1	[1.1]	3	[1.9]	2.8	3.0	3.0
Barium	550		[63.2]	44.4	137	58.5	[44.3]	[40]	[16.8]	[1.7]	[45.8]	62.5	72.2	45.7	[46.6]	55.3	[36.9]	[19.9]	[38.7]	—	—
Beryllium	16		[0.32]	[0.37]	[1.0]	[0.34]	[0.40]	[0.35]	[0.2]	[0.54]	[0.47]	[0.68]	[0.37]	[0.44]	[0.5]	[0.54]	[0.49]	[0.27]	[0.43]	< 3.4	< 3.1
Calcium	NA		[948]	1,570 J	[987]	[646]	1,870 J	[1,100]	[250]	[548]	[431]	[720]	[749]	[398]	1,360 J	[933]	[519]	[429]	1,220 J	< 3.4	< 3.1
Cadmium	3.9		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 3.4	< 3.1
Chromium	28		11.5	16.3	24.5	9.4	26.6	9	14.3	22.1	21.5	18.5	13.3	18.4	19.3	14	20.4	18.6	16.3	11	26
Cobalt	160		[3.6]	[4.4]	14.1	[4.9]	14.6]	[3.6]	[1.6]	[11.4]	[11.6]	[8.0]	[4.0]	[4.3]	[3.9]	[3.1]	[2.0]	[4.0]	—	—	—
Copper	310		6.2 K	7.8 K	31.5	[4.4] K	8 K	6.1 K	[3.7] K	7.7 K	7.2 K	11.9 K	12.8	[5.6] K	7.9 K	[4.9] K	6.5 K	[5.5] K	6.3 K	5.3	25
Iron	15,000		9,420	13,100	19,300	7,990	14,500	7,570	10,800	17,400	15,200	20,400	9,780	1,470	16,400	1,560	14,000	11,200	14,100	—	—
Lead	400		19.2	21.6	51.4	15.5	15.8	14.4	5.1	9.6	7.9	7.8	19.4	6.8	8.6	6.9	5.6	6.3	7.2	28	40
Magnesium	NA		[728]	1,110 J	2,790 J	[602]	[181]	[559]	[907]	[1,150]	1,500 J	2,660 J	1,560 J	1,160 J	[1,170]	[393]	1,140 J	[650]	[1,130]	—	—
Manganese	160		176 J	168 J	653 J	285 J	170 J	208 J	18.6 J	54.5 J	289 J	229 J	485 J	50.2 J	147 J	243 J	56.5 J	40 J	127 J	—	—
Mercury	0.51		R	R	[0.09] L	R	R	R	R	R	R	0.12 L	[0.07] L	R	R	R	R	R	R	< 0.14	0.26
Nickel	160		[4.5] K	[5.7] K	24.4	[3.4] K	[5.1] K	[3.3] K	[2.4] K	[6.3] K	[7.1] K	11.5 K	20.7	[5.8] K	[6.0] K	[3.9] K	[5.2] K	[2.9] K	[5.4] K	< 3.4	38
Potassium	NA		[211]	[354]	[1140]	[130]	[946]	[166]	[160]	[313]	[330]	[584]	[327]	[333]	[109]	—	—	—	—	< 3.4	< 3.1
Selenium	39		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 3.4	< 3.1
Silver	39		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 2.7	< 2.6
Thallium	3.8		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vanadium	55		16.9 K	24.9	35	18.3 K	26.1	13.5 K	18.4 K	32	26.8	35.9	16.2	25.6	29.8	16 K	26.7	22.2	25.6	—	—
Zinc	2,300		22.4	25.3	67.7	16.6	27.7	85.5	10.3	30	17.6	32.4	47.7	24.7	22.1	21.3	13.8	10.3	20.3	< 34	< 34.0
Nitroaromatics (mg/kg)																					
Nitroaromatics (mg/kg)																					
HMX	NA		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.045 J	< 0.25

Notes

— Sample not analyzed for this parameter
 < - Parameter not detected, value indicates detection limit
 NA - No screening value exists for this parameter.
 J - Estimated value.

S is surface sample and SS is subsurface sample.

Table 3 Sediment Analytical Results
Herron Farm, Elkton, MD

Parameter	NOAA Screening Value - Freshwater Sediment Toxic Effects Level ¹	Location ID	MDE Samples				ERM Sample	
			SEDU-1	SEDU-2	SEDU-4 (SEDU-2 dup)	SEDU-1	Sed-1	
			—	—	—	—	—	
			Grab	Grab	Grab	Grab	Composite	
		Depth Interval (feet bgs)						
		Sample Type						
		Date Collected	Jul-04	Jul-04	Jul-04	Jul-04		Feb-05
TCL VOCs (ug/kg)								
Acetone	NA		7 J	6 J	6 J	ND		—
SVOCs (ug/kg)								
Caprolactam	—		28 J	ND	24 J	ND		—
Phenanthrene	41.9		23 J	ND	ND	37 J	<	430
Fluoranthene	111		27 J	ND	ND	65 B	<	430
Pyrene	53		42 J	ND	ND	41 J	<	430
Benzo(a)anthracene	31.7		ND	ND	ND	32 J	<	430
Chrysene	57.1		ND	ND	ND	31 J	<	430
Benzo(b)fluoranthene	—		ND	ND	ND	24 J	<	860
Benzo(a)pyrene	31.9		ND	ND	ND	23 J	<	430
Pesticides/Herbicides/PCBs (mg/kg)								
None Detected	NA		ND	ND	ND	ND		ND
Total Metals (mg/kg)								
Aluminum	NA		2250	940	1120	8420		—
Antimony	NA		R	R	R	0.23 B	<	3.3
Arsenic	5.9		2.4 B	0.94 B	1.8 B	4.2	<	0.55
Barium	NA		16.7 J	6.3 J	10.4 J	67.8		—
Beryllium	NA		0.18 B	0.054 J	0.15 J	0.79 J	<	2.7
Cadmium	0.596		0.24 J	0.11 B	0.17 B	0.52 J	<	2.7
Calcium	NA		303 J	102 B	126 B	604 J		—
Chromium	37.3		6.8	4.4	3.8	18.3	<	2.7
Cobalt	NA		2.8 J	1.4 J	2.4 J	8.3 J		—
Copper	35.7		3.6 B	1.7 B	2.3 B	11.6	<	3.3
Iron	NA		5,210	2,000	2,950	11,400		—
Lead	35		6.3 J	2.2 J	2.7 J	19.9 L	<	2.7
Magnesium	NA		688 J	259 J	197 J	1,980		—
Manganese	NA		79.4	69.2	128.0	364		—
Mercury	0.174		ND	ND	0.18	0.26	<	0.11
Nickel	18		7.6 J	2.9 J	4.3 J	25 J	<	2.7
Potassium	NA		282 B	85.2 J	90.9 J	781 J		—
Selenium	NA		ND	ND	ND	ND	<	2.7
Silver	NA		ND	ND	ND	ND	<	2.7
Thallium	NA		2.6 B	0.53 B	ND	ND	<	2.2
Vanadium	NA		6.4 J	2.5 J	2.9 J	17.6		—
Zinc	123.1		22	7.1 J	9.6 J	48.4	<	27
Nitroaromatics (mg/kg)	NA		—	—	—	—		ND

Notes

— Sample not analyzed for this parameter

< - Parameter not detected, value indicates detection limit

NA - No screening value exists for this parameter.

J - Estimated value.

B - Not detected substantially above the level reported in laboratory or field blanks

R - Unusable result

Shaded values indicate exceedance of NOAA TEL screening levels

¹NOAA Screening Quick Reference Tables - Freshwater Sediment toxic Effects Level (TEL)

Table 4 Summary of Ground Water Quality Data
Herron Farm, Elkton, Maryland

Herron Farm, Elkton, Maryland													
Parameter	MDE Cleanup Standard (Residential)	Well ID	MDE Samples								ERM Samples		
			GWD-1	GWU-1	GWU-2	GWU-3	E4GW-4	E4GW-5 (E4GW-4 dup)	E4GW-6	E4GW-8	MW-1	GWU-2 ¹	GWU-3 ²
			Date	Jul-05	Jul-04	Jul-05	Jul-05	Jul-05	Jul-05	Jul-05	Jul-05	Feb-05	Feb-05
TCL VOCs (ug/L)													
Trichloroethene	5		—	ND	ND	ND	ND	ND	ND	2 J	ND	—	—
Chloromethane	2.1		—	ND	ND	ND	ND	3 J	ND	ND	ND	—	—
Ethylbenzene	700		—	ND	ND	ND	3 J	3 J	ND	ND	ND	—	—
Tetrachloroethene	5		—	ND	ND	ND	ND	ND	ND	71	ND	—	—
Xylenes	1,000		—	ND	ND	ND	10	11	ND	ND	ND	—	—
TCL SVOCs (ug/L)													
Bis(2-Ethylhexyl)Phthalate	20		—	50	4 B	4 B	ND	ND	ND	ND	—	—	—
Caprolactam	NA		—	0.7 J	ND	ND	ND	ND	ND	ND	—	—	—
2-Methylnaphthalene	20		—	ND	ND	ND	3 J	ND	ND	ND	—	—	—
Pesticides/Herbicides/PCBs (ug/L)													
Aldrin	0.08		0.011 J	0.017 J	0.0082 J	0.0094 J	—	—	—	—	ND	—	—
Endrin	2		ND	0.028 J	ND	ND	—	—	—	—	ND	—	—
Endrin Aldehyde	2		ND	0.01 J	ND	ND	—	—	—	—	ND	—	—
Heptachlor Epoxide	0.2		ND	0.017 J	ND	ND	—	—	—	—	ND	—	—
Nitroaromatics (mg/L)													
None Detected	NA		—	—	—	—	—	—	—	—	ND	ND	ND
Total Metals (mg/L)													
Aluminum	0.05		—	4.67	8.91	21.6	10.5	11.6	92.6	0.685	—	—	—
Arsenic	0.05		—	ND	ND	ND	ND	ND	0.0601	ND	—	—	—
Cadmium	0.005		—	0.00047 J	0.00099 J	0.0021 J	ND	ND	ND	ND	—	—	—
Chromium	0.1		—	0.0766	0.309	0.256	0.0845	0.0905	0.704	[0.0039] L	—	—	—
Copper	1.3		—	0.0171 J	0.115	0.0112 J	0.0354	0.0422	0.522	0.026 L	—	—	—
Lead	0.015		—	ND	ND	ND	0.018	0.0234	0.265	ND	—	—	—
Manganese	0.05		—	0.197	0.541	0.878	0.2	0.238	1.31	0.296	—	—	—
Mercury	0.002		—	ND	0.00006 J	0.00009 J	0.00031 K	[0.00018] K	ND	ND	—	—	—
Selenium	0.05		—	ND	0.0204 J	ND	ND	ND	[0.0004] K	ND	—	—	—
Vanadium	0.05		—	0.0212 J	0.0385 J	0.0678	0.0588	0.0691	0.744	[0.0084] L	—	—	—
Barium	2		—	ND	ND	ND	[0.175]	[0.199]	[1.640]	[0.0694]	—	—	—
Beryllium	0.004		—	ND	ND	ND	[0.00076]	[0.00094]	[0.0198]	ND	—	—	—
Calcium	NA		—	ND	ND	ND	8.59	8.96	69.3	7.57	—	—	—
Cobalt	0.073		—	ND	ND	ND	[0.0091]	[0.0107]	0.231	0.0787 L	—	—	—
Iron	0.3		—	ND	ND	ND	11.9	12.5	78.4	1.4	—	—	—
Magnesium	NA		—	ND	ND	ND	9.82	9.98	31.2	[4.98]	—	—	—
Nickel	0.073		—	ND	ND	ND	[0.0339]	[0.0357]	0.412	[0.0162] L	—	—	—
Potassium	NA		—	ND	ND	ND	[1.38]	[1.44]	9.07	[1.12]	—	—	—
Sodium	NA		—	ND	ND	ND	[3.63]	[3.69]	9.29	9.7	—	—	—
Zinc	1.1		—	ND	ND	ND	0.136	0.182	0.516	ND	—	—	—
Dissolved Metals (mg/L)													
Aluminum	0.05		—	ND	0.148 B	0.099 B	[0.0776]	[0.0789]	[0.140]	ND	—	—	—
Chromium	0.1		—	0.0022 B	0.0033 B	0.0016 B	ND	ND	[0.0023] K	ND	—	—	—
Copper	1.3		—	0.0032 B	0.0122 J	ND	[0.0054] K	[0.0061] K	[0.0051] K	[0.0141] B	—	—	—
Manganese	0.05		—	0.128	0.286	0.307	0.0981	0.0939	0.586	0.288	—	—	—
Mercury	0.002		—	ND	ND	ND	R	[0.00016] L	R	R	—	—	—
Barium	2		—	ND	ND	ND	[0.0776]	[0.0822]	[0.169]	[0.0609]	—	—	—
Calcium	NA		—	ND	ND	ND	5.43	5.57	49	5.1	—	—	—
Cobalt	0.073		—	ND	ND	ND	[0.0053]	[0.0053]	[0.0071]	0.0693	—	—	—
Iron	0.3		—	ND	ND	ND	0.666	0.625	7.81	[0.0377]	—	—	—
Magnesium	NA		—	ND	ND	ND	7.86	8.11	18.4	[4.61]	—	—	—
Nickel	0.073		—	ND	ND	ND	[0.0236] K	[0.0250] K	[0.010] K	[0.0186] K	—	—	—
Potassium	NA		—	ND	ND	ND	[1.06]	[1.17]	[2.90]	[1.27]	—	—	—
Sodium	NA		—	ND	ND	ND	[3.30]	[3.62]	9.12	10.4	—	—	—
Zinc	1.1		—	ND	ND	ND	0.0949	0.0874	0.0535 B	0.0326 B	—	—	—
Other													
Nitrate (mg/L)	10 ³		—	—	—	—	—	—	—	—	< 0.2	2.6	< 0.2
Nitrite (mg/L)	1 ³		—	—	—	—	—	—	—	—	< 0.2	< 0.2	< 0.2
Perchlorate (ug/L)	NA		—	—	—	—	—	—	—	—	< 4	0.88 B ³	0.90 B ³

Notes

-- Sample not analyzed for this parameter
 < - Analyte not detected, value indicates detection limit
 ND - Analyte not detected, detection limit not indicated
 J - Analyte present, reported value may not be accurate or precise
 B - Not detected substantially above the level reported in blanks
 [] - Analyte present, as values approach instrument quantitation limit, quantitation may not be accurate.
 K - Analyte present, reported value may be biased high

R - Unusable result.
 B³ - Estimated value. Result is below reporting limit.
 NA - No screening value exists for this parameter
 Shaded values indicate exceedance of MDE cleanup standards
¹Sample location corresponds to MDE well GWU-1
²Sample location corresponds to MDE well GWU-3
³MDE cleanup standards do not list nitrate and nitrite. Cleanup standards listed for nitrate and nitrite are Maximum Contaminant Levels (MCLs) (Source: EPA Region III Risk Based Concentration Tables Updated 10/8/2004)

**Table 5 Summary of Surface Water Quality Data
Herron Farm, Elkton, Maryland**

Parameter	MDE Toxic Substances Criteria ¹	Sample ID	SW-U1	SW-U2	SW-U4 (SW- U2 dup)	SW-T1
		Date	Jul-04	Jul-05	Jul-05	Jul-05
		Collected by	MDE	MDE	MDE	MDE
TCL VOCs (ug/L)						
None Detected	NA		ND	ND	ND	ND
TCL SVOCs (ug/L)						
Caprolactam	NA		ND	ND	ND	0.7 J
Pesticides/Herbicides/PCBs (ug/l)						
None Detected	NA		ND	ND	ND	ND
Total Metals (mg/L)						
Barium	NA		0.0353 J	0.0337 J	0.0337 J	0.0303 J
Calcium	NA		12.8	12.4	12.1	11.8
Copper	0.009		0.0049 B	0.0047 B	0.0045 B	0.0047 J
Iron	NA		0.365 B	0.318	0.475	0.336 B
Magnesium	NA		8.57	8.41	8.12	8.07
Manganese	NA		0.0315	0.0326	0.0344	0.0343
Nickel	0.052		0.0054 J	0.0056 J	0.0045 J	0.005 J
Potassium	NA		3.00 J	2.65	2.61	2.31 J
Sodium	NA		11.4	11	10.8	10.3

Notes

-- Sample not analyzed for this parameter

ND - Analyte not detected, detection limit not indicated

J - Analyte present, reported value may not be accurate or precise

B - Not detected substantially above the level reported in blanks

¹Maryland Toxic Substances Criteria - COMAR 26.08.02.03 Table 1 Freshwater Chronic

SW-T1 was collected off site at confluence of Little elk Creek and Laurel Run.